

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 6 -

June 30, 2003

Amendments to the Claims

1 (currently amended). A part-cylindrical pre-formed insulation module ~~having a body shaped to a component to be insulated for insulating a component~~ including:

an unstriated insulation layer ~~shaped to the body comprising a rigid fibrous insulating material with an inner surface for contacting an outer surface of the component to be insulated and comprising insulating material~~ having fibres sealed having no specific orientation relative to the module within said layers by a sealing agent, and said layer being substantially uniform in composition and density over a cross section of said layer ~~which has an inner surface adjacent to a surface of a component to be insulated;~~ an outer surface and contacting surfaces;

a substantially non-fibrous, resilient cladding layer shaped to the ~~body~~ component to be insulated and directly adhered to the insulation layer at the outer surface thereof; and

connection means disposed along the length of the body for hingelessly connecting with at least one further adjacent insulation module wherein said insulation and cladding layers of said module are disposed relative to each other such that, on connection to said further insulation module, insulation layers of said module and said at least one further module are brought into contact along said contacting surfaces of the insulation layers of the modules for insulating at least a portion of the component.

2 (canceled).

3 (withdrawn). A method for manufacturing an insulation module having a body shaped to a component to be insulated including:

an unstriated insulation layer shaped to the body comprising a rigid fibrous insulating material having fibres

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 7 -

June 30, 2003

sealed, having no particular orientation relative to the module, within the layer by a sealing agent and being substantially uniform in composition and density over a cross section of said layer which has an inner surface adjacent to a surface of a component to be insulated; an outer surface; and contacting surfaces;

a substantially non-fibrous resilient cladding layer shaped to the body and directly adhered to the insulation layer at the outer surface thereof; and

connection means disposed along the length of the body for connecting with at least one further adjacent insulation module wherein said insulation and cladding layers of said module are disposed relative to each other such that, on connection to said further adjacent module, insulation layers of said module and said at least one further module are brought into contact along said contacting surfaces of the insulation layers of the modules for insulating a portion of the component and which includes the step of taking a pre-form of a fibrous insulating material, cutting it to shape and applying to that pre-form, prior to cladding, a sealing agent for encapsulating fibres of said fibrous insulating material for preventing unacceptable release of fibres into the insulation environment during normal use.

4 (withdrawn). The method of claim 3 further including adhering a metallic cladding layer free of fibres to the insulating layer following the sealing operation.

5 (canceled).

6 (canceled).

7 (withdrawn). A method of insulating a component comprising securing to that component a pre-formed insulation

A3
cont

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 8 -

June 30, 2003

module having a body shaped to a component to be insulated including:

an unstriated insulation layer shaped to the body comprising a rigid fibrous insulation material having fibres sealed having no specific orientation relative to the module within said layer by a sealing agent and being substantially uniform in composition and density over a cross section of said layer which has an inner surface adjacent to a surface of a component to be insulated; an outer surface and contacting surfaces;

a substantially non-fibrous, resilient cladding layer shaped to the body and directly adhered to the insulation layer at the outer surface thereof; and

connection means disposed along the length of the body for hingelessly connecting with at least one further adjacent insulation module wherein said insulation and cladding layers of said module are disposed relative to each other such that, on connection to said further insulation module, insulation layers of said module and said at least one further module are brought into contact along said contacting surfaces of the insulation layers of the modules for insulating at least a portion of the component; and connecting said module to at least one further adjacent module of like construction by co-operation of their respective connection means for insulating a portion of a component.

8 (withdrawn). The method of claim 7 wherein said component is a pipe and said module is a part-cylindrical module with cladding layer overlapping said insulation layer along the length of the module on both sides of a longitudinal axis thereof such as to overlap with a cladding layer of said further module for at least partial connection therewith; and said module is provided along its length with circumferential beads for location of a longitudinally disposed adjacent module.

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 9 -

June 30, 2003

9 (canceled).

10 (canceled).

11 (withdrawn). The method of Claim 3 wherein said sealing agent is an acrylic emulsion.

12 (withdrawn). The method on Claim 4 wherein said sealing agent is an acrylic emulsion.

13 (withdrawn). The method of Claim 3 wherein said pre-form is at least part-cylindrical in shape.

14 (withdrawn). The method on Claim 4 wherein said pre-form is at least part-cylindrical in shape.

15 (withdrawn). The method on Claim 11 wherein said pre-form is at least part-cylindrical in shape.

16 (withdrawn). The method on Claim 12 wherein said pre-form is at least part-cylindrical in shape.

17 (withdrawn). The method of Claim 7 wherein said modules are interference fitted together.

18 (withdrawn). The method on Claim 8 wherein said modules are interference fitted together.

19 (withdrawn). The method of Claim 7 in which said inner surfaces of said module directly contact the insulated portion of said component.

20 (withdrawn). The method on Claim 8 in which said inner surfaces of said module directly contact the insulated portion of said component.

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688


- 10 -

June 30, 2003

21 (New). The module of claim 1 having first and second ends and a circumferentially extending bead extending about a circumference of said module at a distance from said first end thereof.

22 (New). The module of claim 21 having a circumferentially extending bead at said second end thereof.

23 (New). The module of claim 21 wherein said insulation layer finishes flush with said cladding layer at said first end of said module.

 24 (New). The module of claim 23 wherein said cladding layer extends beyond said insulation layer at said second end of said module.

25 (New). The module of claim 24 wherein said sealing agent forms a sealing film on said insulation layer.

26 (New). The module of claim 1 wherein a channel extending along a length of said module forms said connection means.

27 (New). The module of claim 1 wherein said module is semi-cylindrical and two beads extending along a length of said module on an outer surface of said module form said connection means.

28 (New). The module of claim 1 wherein said module is semi-cylindrical and two diametrically spaced apart channels form said connection means.

29 (New). A pre-formed insulation module system for insulating a length of pipe comprising first and second semi-cylindrical modules each having:

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 11 -

June 30, 2003

an unstriated insulation layer with an inner surface contacting an outer surface of said pipe and comprised of rigid fibrous insulating material having fibres sealed having no specific orientation relative to the module within said layer by a sealing agent, said layer being substantially uniform in composition and density over a cross section of said layer and an outer surface and longitudinally extending contact surfaces; and

a substantially non-fibrous resilient cladding layer and directly adhered to said insulation layer at said outer surface thereof, wherein said first module has two diametrically spaced channels extending along its length and said second module has two beads extending along its length, said beads being accommodated within said channels to fasten said first and second modules together by interference fitting.

30 (New). A pre-formed insulation module system as claimed in claim 29 for insulating a first length of pipe wherein said first and second modules have first and second ends and circumferentially extending beads being distanced from said first ends of said first and second modules on outward surfaces thereof said beads being accommodated within channels disposed on inward surfaces of second ends of said first and second modules of an adjacent insulation module system insulating a second length of pipe integral with and adjacent the first length of pipe such that said module systems insulating said first and second lengths of pipe are fastened together.

31 (New). A pre-formed insulation module including:
an insulation layer having fibres sealed within said layer by a sealing agent and having an inner surface for contacting a component to be insulated and an outer surface; and

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 12 -

June 30, 2003

a substantially non-fibrous resilient cladding layer directly adhered to the insulation layer at said outer surface thereof wherein said sealing agent is an acrylic emulsion.

32 (New). The module of claim 31 being semi-cylindrical.

33 (New). The module of claim 32 wherein said acrylic emulsion contains a flame retardant.

34 (New). The module of claim 31 wherein said sealing agent forms a sealing film on said insulation layer, said film containing flame retardant.

35 (New). The module of claim 34 wherein said flame retardant is alumina trihydrate.

36 (New). The module of claim 34 wherein said flame retardant constitutes 60% by weight of said sealing film.

37 (New). The module of claim 35 wherein said flame retardant constitutes 60% by weight of said sealing film.

38 (New). The module of claim 35 wherein said sealing agent includes acrylic emulsion, alumina trihydrate and propylene glycol.

Response to Office Action
Dated January 29, 2003

Appln. No. 09/674,688

- 13 -

June 30, 2003

Amendments to the Drawings

The attached sheets of drawings include changes to Figures 1a, 1b, 2 and 3. These sheets will replace the original sheets including Figures 1a, 1b, 2 and 3.